

REMARKS/ARGUMENTS

Applicants note Draftsman's objections to the informal drawings.
Applicants are herewith simultaneously transmitting a Letter to the Official Draftsperson with Formal Drawings rectifying all objections.

Claims 1-20 remain in this application. Claims 1 and 16 have been amended. No Claims have been canceled. No new claims have been added.

Claims 1, 6 and 7 are rejected under 35 U.S.C. § 102(e) as being anticipated by Taylor et al (U.S. 6,778,728 B2).

Taylor does not describe nor suggest ... a high fill factor MEMS array of tilting mirrors used to attenuate a plurality of wavelength channels in an optical network; and an interface control circuit controlling said array of tilting mirrors said interface circuit receiving and storing control signals *to reconfigure wavelength channel definitions* ... as described in Applicants' newly amended base Claim 1.

Taylor describes a MEMS mirror device having a high linear fill factor but does not describe an interface control circuit for controlling an array of tilting mirrors said interface circuit receiving and storing control signals *to reconfigure wavelength channel definitions* ... as described in Applicants' base

Claim 1. As the Examiner notes, some drive electronics are inherent, since most MEMS devices will not work without some electronics to drive them. However, Applicants' interface control electronics go beyond simple driver circuits, and include the ability to receive and store instructions and to change the wavelength channel definitions as the network needs change. (See Applicants' Specification, page 12).

Taylor Col 4, lines 44-47 does not describe or suggest ... receiving and storing control signals to reconfigure wavelength channel definitions ... as in Applicants' Claim 1. Nowhere in Taylor is there a description or suggestion to reconfigure wavelength channels or the ability to do so with a wavelength selective switch. The presence of a wavelength selective switch does not equate to the ability to reconfigure wavelength channel definitions. Fixed wavelength channels cannot be reconfigured. Further, Applicants contend that as the mirrors in Taylor are fairly large, one of skill in the art would not be led to reconfigure as they do not lend themselves to being reconfigurable.

Accordingly, Applicants argue that each and every feature of the claim as arranged in the Applicants' Claims 1 is not taught or disclosed by the cited prior art reference and hence a *prima facie* case of anticipation has not been made. For that reason, Applicants' base Claim 1 and hence, dependent Claims 6 and 7

are patentably distinct over the Taylor reference under 35 U.S.C. § 102(e) and the rejection should be removed.

The subject matter relied upon by the Examiner, specifically Taylor col. 4, lines 44-47, col. 1, lines 36-37, and col. 3, lines 65-67 relating to current Claims 1, 6, and 7, respectively was invented by an inventor of the instant pending application. Corning IntelliSense Corporation is a wholly owned subsidiary of Corning Incorporated. Hence, for this reason as well, Applicants deem that this rejection is improper.

**Claims 1, 4, 5, 8, 9 and 19 are rejected under 35 U.S.C. § 102(e)
as being anticipated by Chiu et al (U.S. 2002/0135864 A1).**

Chiu does not describe nor suggest ... a high fill factor MEMS array of tilting mirrors used to attenuate a plurality of wavelength channels in an optical network; and an interface control circuit controlling said array of tilting mirrors said interface circuit receiving and storing control signals *to reconfigure wavelength channel definitions* ... as described in Applicants' base Claim 1.

Chiu discloses a silicon micromachined optical device with the ability to partially intercept light beams propagating along respective beam paths. There is no description or suggestion in Chiu of Chiu's devices forming a high fill factor

linear array. Applicants contend that the Chiu mirrors shown in Figs. 1, 2, and Figs. 12-16 have large gaps between them not found in high fill factor arrays and are configured as a two dimensional optical switch in a two dimensional array.

Furthermore, there is no description or suggestion in Chiu of an interface control circuit controlling the array of tilting mirrors by receiving and storing control signals *to reconfigure wavelength channel definitions* ... as described in Applicants' base Claim 1. The Examiner states that it is inherent and reasonably assumed for Chiu to comprise such circuitry because of the presence of optical attenuators and switches [Chiu, page 1, section 0002]. However, Applicants argue that one of skill in the art does not equate optical attenuators and switches to the ability to reconfigure wavelength channel definitions. Applicants maintain that fixed wavelength channels cannot be reconfigured. Applicants argue that Chiu has a fixed definition of wavelength channels determined by mirror size and spacing, defined by fixed hardware such as optics and mirror positions. The notion of having reconfigurable wavelength channel definitions subject to flexible software upgrades as described Applicant's specification with regard to Applicants' Fig. 4, for instance, without hardware changes is nowhere found in the Chiu reference.

Accordingly, Applicants argue that each and every feature of the claim as arranged in the Applicants' Claims 1 is not taught or disclosed by the cited prior

art reference and hence a *prima facie* case of anticipation has not been made. For that reason, Applicants' base Claim 1 and dependent Claims 4, 5, 8, 9 , and 19 are patentably distinct over the Chiu reference under 35 U.S.C. § 102(e) and the rejection should be removed.

**Claims 1, 12, 13, 19 and 20 are rejected under 35 U.S.C. § 102(e)
as being anticipated by Hill et al (U.S. 6,760,144 B2).**

Hill does not describe nor suggest ... a high fill factor MEMS array of tilting mirrors used to attenuate a plurality of wavelength channels in an optical network; and an interface control circuit controlling said array of tilting mirrors said interface circuit receiving and storing control signals ... as described in Applicants' base Claim 1.

Hill discloses an articulated MEMS electrostatic rotary actuator such that the actuating means are only mechanically coupled to the optical components. However, there is no description or suggestion in Hill of Hill's actuators forming a *high fill factor linear array*. The mirrors shown in Hill's Fig. 5 have large gaps between them configured in a staggered fashion.

Furthermore, there is no description or suggestion in Hill of an interface control circuit controlling the array of tilting mirrors by receiving and storing

control signals *to reconfigure wavelength channel definitions* ... as described in Applicants' base Claim 1. The Examiner states that it is inherent and reasonably assumed for Hill to comprise such circuitry because of the presence of add-drop optical switches and wavelength blockers [Hill, col. 1, lines 33-36]. However, Applicants argue that one of skill in the art does not equate add-drop optical switches and wavelength blockers to the ability to reconfigure wavelength channel definitions. Applicants maintain that fixed wavelength channels cannot be reconfigured. Applicants argue Hill has a fixed definition of wavelength channels determined by mirror size and spacing, defined by fixed hardware such as optics and mirror positions. The notion of having reconfigurable wavelength channel definitions as network needs change is nowhere found in Hill.

Accordingly, Applicants argue that each and every feature of the claim as arranged in the Applicants' Claims 1 is not taught or disclosed by the cited prior art reference and hence a *prima facie* case of anticipation has not been made. For that reason, Applicants' base Claim 1 and dependent Claims 12, 13, 19 and 20 are patentably distinct over the Hill reference under 35 U.S.C. § 102(e) and the rejection should be removed.

Claims 2 and 3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chiu et al.

For reasons discussed *supra* in conjunction with Applicants' newly amended base Claim 1, Applicants argue that dependent Claims 2 and 3 are patentably distinct over Chiu under 35 U.S.C. § 103(a).

Applicants note the Examiner stated that Claims 10, 11, 16 and 18 are objected to as being dependent upon a rejected base claim, but would be *allowable* if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants have amended Claim 16 which depended from Claim 1 to include all of the limitations of Applicants' base Claim 1. Hence, Applicants contend that newly amended Claim 16 is allowable.

CONCLUSION

Applicant believes that no extension of time is necessary to make this Reply timely. Should applicant be in error, applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Joanne N. Pappas at 978-635-2289.

Respectfully submitted,

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Joanne N. Pappas
Attorney for Assignee
Reg. No.: 40,117
Corning Incorporated
Life Sciences
45 Nagog Park
Acton, MA 01720
Tel: 978-635-2289